

5-82
NUMBER 428
4 SEPTEMBER 1991

CONTRIBUTIONS IN SCIENCE

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(HYMENOPTERA: FORMICIDAE)

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STUDIES OF NEOTROPICAL AMBLYOPONE ERICHSON (HYMENOPTERA: FORMICIDAE)

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ABSTRACT. Two new species of neotropical *Amblyopone* are described: *A. falcata* from Puerto Rico and *A. lurilabes* from northern South America, southeastern Peru, and northern Argentina. *Amblyopone tropicalis* Brown is synonymized under *A. orizabana* Brown, and the previously unknown worker of *A. mystriops* Brown is described. *Amblyopone degenerata* Borgmeier is reported from southeastern Peru. A key for the identification of the workers and females of New World *Amblyopone* is included.

RESUMEN. Se describen dos nuevas especies de *Amblyopone* del neotrópico: *A. falcata* de Puerto Rico y *A. lurilabes* del norte de Sud América, sureste Peruano y el norte de La Argentina. *Amblyopone tropicalis* Brown se convierte en un sinónimo menor de *A. orizabana* Brown y se describe la casta obrera de *A. mystriops* Brown, previamente desconocida. Se reporta la presencia de *A. degenerata* Borgmeier en el sureste del Perú. Se incluye una clave para la identificación de las obreras y hembras de *Amblyopone* del Nuevo Mundo.

INTRODUCTION

Amblyopone is a cosmopolitan genus of primitive ants belonging to the subfamily Ponerinae. It consists, at present, of 50 species, 13 of which occur in the New World. Brown revised the group in 1960 and described an additional neotropical species in 1962. Aspects of *Amblyopone* biology are presented in Gotwald and Levieux (1972), Baroni Urbani (1978), Masuko (1986), and Ward (1988). Recent improvements in collecting methods such as leaf litter sifting and the use of Berlese funnels or Winkler sacks have permitted the capture of more specimens of *Amblyopone* and other cryptic ground nesting ants than was previously possible. New species have been discovered and the status of known taxa can be better evaluated. The measurements used in this study are as defined by Taylor (1978: 830), except for HW, which here includes the gular teeth.

SPECIMENS EXAMINED

During the course of this study I have studied material from the following collections:

BMNH—British Museum of Natural History, London, England

CASC—California Academy of Sciences, San Francisco, California, U.S.A.

CFFB—Colección Fernando Fernández, Bogotá, Colombia

IZAV—Instituto de Zoología Agrícola, Universidad Central de Venezuela, Maracay, Venezuela

JTLC—Jack T. Longino Collection, The Allyn Museum, Sarasota, Florida, U.S.A.

LACM—Natural History Museum of Los Angeles County, Los Angeles, California, U.S.A.

MCZC—Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, U.S.A.

MZUSP—Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil

USNM—U.S. National Museum of Natural History, Smithsonian Institution, Washington, D.C., U.S.A.

Amblyopone falcata Lattke, new species

(Fig. 1)

TYPE MATERIAL. Holotype worker: PUERTO RICO, Guayama, carr. 7740, km 4 (8 km N Guayama, 18°04'N 66°07'W, 985 m), San Lorenzo, 22-IV-1980, J.A. Torres, col., no. 33. Deposited in the LACM. Paratypes: (1) Eight nidoparatype workers with same collection data as holotype. Three deposited in the LACM, 2 in IZAV, 1 in MCZC, 1 in BMNH, 1 in MZUSP. (2) One worker: PUERTO RICO, Aguas Buenas Forest at Aguas Buenas Cave, 18°14'N 66°07'W, 250 m, 7-17 May 1973, S. Peck, leg. Deposited in MCZC.

1. Instituto de Zoología Agrícola, Universidad Central de Venezuela, Facultad de Agronomía, Maracay, Venezuela.

WORKER. Holotype (paratypes) dimensions: HL 1.12 (0.73–1.10), ML 0.98 (0.41–0.98), HW 1.00 (0.57–1.00), SL 0.63 (0.37–0.65), WL 1.32 (0.85–1.32) mm, CI 0.89 (0.75–0.91), MI 0.98 (0.72–0.98), SI 0.63 (0.65–0.66); $n = 6$.

Head in full face view with concave posterior margin, sides weakly convex and diverging anterad. Anterior clypeal margin convex, with 6–8 teeth: 2 median teeth may be separate or fused to variable degree, 2 intermediate teeth and 2 lateral triangular teeth. Gular teeth small and sharply pointed. Mandibles elongate with concave outer margins: apical tooth long and sharp, preapical tooth very small and subquadrate (sometimes slightly emarginate medially and in small specimens tubercle-like), followed by 5 double teeth fused basally, and a large and triangular innermost tooth. Mandibles in small specimens relatively broader and with more convex inner preapical border; double teeth tend to be more fused basad.

Frontal carinae contiguous, separated only by slight suture. Apex of antennal scape reaching back $\frac{2}{3}$ of head and narrowest medially. Funiculus 10-merous, each segment constricted one from another and incrassate apicad, not forming distinct club. Funicular segments I–V, X longer than broad; VI–IX long as broad. Anterior one-third to one-fourth of head with parallel longitudinal rugae that diverge slightly posterad, very weakly impressed median longitudinal sulcus reaches vertex or a little before it. Eyes absent. Dorsum of head densely punctate-reticulate, each puncture with central piligerous tubercle. Punctures slightly less dense on lateral and ventral sides of head. Occiput shining and with sparse shallow punctures.

Mesosoma laterally with pronotum convex and separated by deep suture from straight and slightly descending mesonotum. Metanotum and dorsal propodeal face slightly convex, gently curving down to feebly convex declivitous face. Most of mesosoma smooth and shining with numerous piligerous punctures except for narrow median longitudinal band that extends caudad over mesosomal dorsum with fewer punctures, appearing smoother. Mesonotum transverse and dorsally narrowest part of mesosoma; metanotal suture sometimes impressed as fine shallow transverse sulcus. Propodeum with posterolateral striae, declivitous face with almost glabrous inferomedian area and with superolateral punctures and inferolateral transverse striae. Mesepisternum with horizontal rugulae. Sides of procoxa with oblique rugulae and dispersed punctures. Sides of metepisternum and propodeum with few punctures. Propodeal spiracle oval.

Petiole laterally with fairly straight anterior margin, meeting the weakly convex face at sharp angle. Gaster smooth and shining, with numerous piligerous punctures; acrotergite with very fine transverse striae; base of gastric segment II scrobiculate; postpetiolar sternite with larger punctures and appearing roughened. Gastric sternite II with boomerang-shaped, beige to yellow patch, outlined in brown.

Pygidium densely punctate, with some longitudinal rugae. Subpetiolar process is translucent rounded lobe anteriorly directed. Petiole and postpetiole dorsally broader than long. Tibiae and femora smooth and shining with abundant punctures. Empodia present, claws simple. Large pectinate spur on protibial apex, none on mesotibia and one long pectinate spur plus smaller, slender straight spur at metatibial apex.

Most of body covered with short and dilute appressed pubescence; antennae, tibia, and gastric apex with some decumbent hairs, erect hairs present on gastric apex. No pubescence on mes- and metepisterna. Color mostly ferruginous-yellow, legs and gaster slightly paler.

QUEEN, MALE. Unknown.

ECOLOGY. The holotype series was taken from leaf litter in the Carite subtropical wet forest.

DISCUSSION. *Amblyopone falcata* may be confused with the Cuban *A. bierigi* Santschi, a species known only from the holotype. *Amblyopone bierigi*, however, lacks the yellow spot on gastric sternite II of *A. falcata* and has 12-merous antennae rather than 11, and sparser punctulae on the body. The combination of 11 antennal segments and the distinctive spot on the gastric ventrum sets *A. falcata* apart from all other known species of the genus. Reduced antennal segmentation is known in *A. degenerata* Borgmeier (6 or 7) from SE Brazil and SE Peru, and *A. gnoma* Taylor (10) from Guadalcanal Island. SEM examination of the unique gastric spot at $150\times$ failed to reveal openings or other sculpturing of taxonomic interest, only smooth integument.

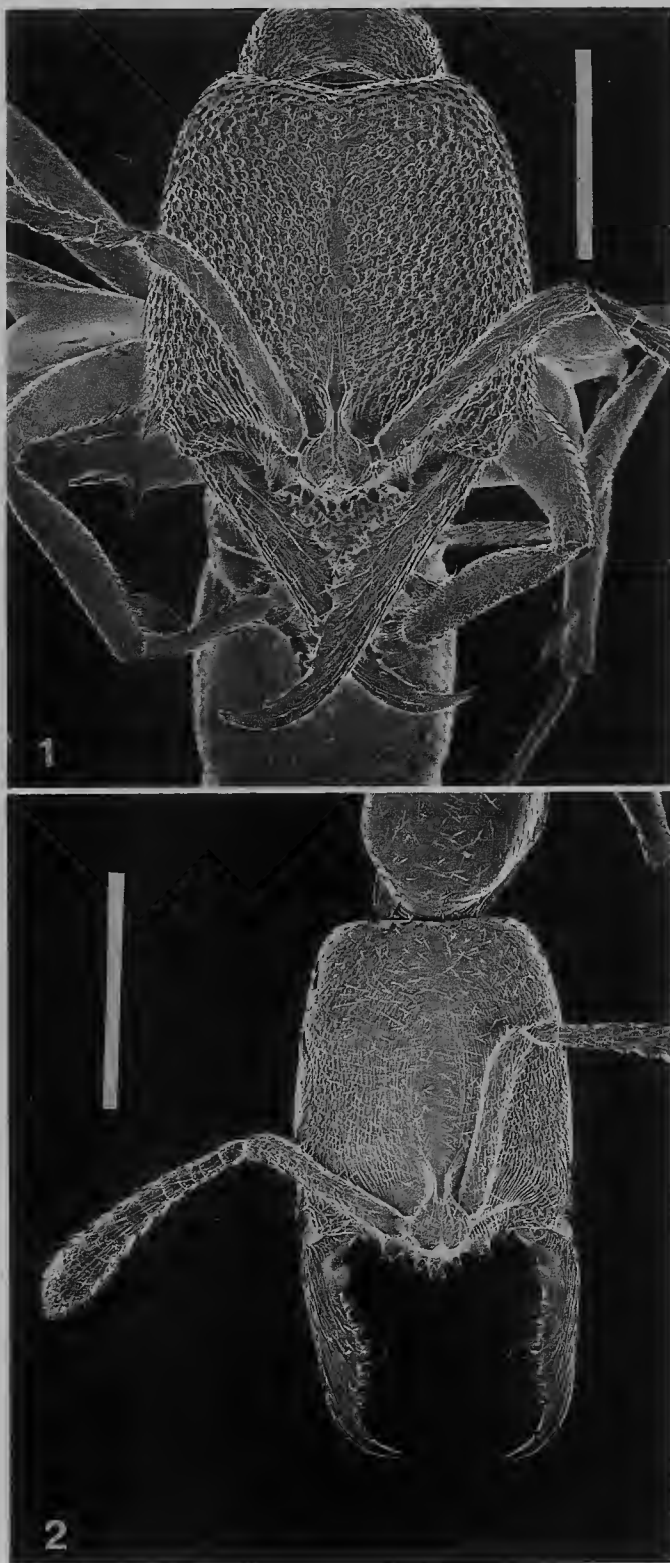
ETYMOLOGY. The species epithet *falcata* is derived from the Latin adjective *falcatus* and alludes to the sickle-shaped mandibles of the ant.

Amblyopone lurilabes Lattke, new species

(Fig. 2)

Amblyopone armigera Lattke 1985:82, 84 (misidentification).

TYPE MATERIAL. Holotype worker: VENEZUELA, Portuguesa, 6 km SE Biscucuy, 9°18'N 70°01'W, 1000 m, 18-VIII-1983, J. Lattke, leg. no. 438. Deposited in IZAV. Paratypes: (1) Eleven nidoparatype workers and queen with the same collection data as the holotype. One worker each in MCZC, LACM, MZUSP. (2) COLOMBIA, Guajira, Serranía de Macuira, 6–8 km S Nazareth, 70–200 m, 13-VI-75, W.L. Brown & C. Kugler, leg. MCZC. (3) COLOMBIA, Magdalena, Parque Tayrona near Pueblito, 200 m, 15-X-77, C. Kugler, leg. CASC. (4) COLOMBIA, Antioquia, Providence Biological Station, Zona Buenos Aires, 600–800 m, 30-XII-77, C. Kugler, leg. MCZC. (5) COLOMBIA, Meta, Villavicencio, 3-III-72, S. & J. Peck, leg. MCZC. (6) ECUADOR, Pichincha, Tinalandia, 16 km SE Santo Domingo de los Colorados, 4-VI-76, S. & J. Peck, leg. MCZC. (7) ECUADOR, Manabí,



Figures 1 and 2. *Amblyopone* species. 1. *Amblyopone falcata* frontal view of head. 2. *Amblyopone lurilabes* frontal view of head. Scale bar equals 0.5 mm.

73 km NE Chone, 300 m, 12-VI-76, S. & J. Peck, leg.

Additional studied material (not types): (1) TRINIDAD, Tortuga Estate, 1943, Strickland & Mc.C. Calley, leg. MCZC. (2) ARGENTINA, Buenos Aires, Yelaya, III-1956, J. Daguerre, leg. USNM. (3) COLOMBIA, Magdalena, Cañaveral, 200 m, 11°19'N 73°56'W, 11-VII-85, J. Longino 708-15. JTLC.

S.P. Cover (pers. comm.) reports a dealate queen from: PERU, Tambopata, Cuzco Amazónico, 15 km NE Puerto Maldonado, 23-VI-89, S. Cover & J. Tobin, leg. CA-423. MCZC.

WORKER. Holotype (paratypes) dimensions: HL 0.76 (0.72–0.80), ML 0.54 (0.50–0.56), HW 0.60 (0.57–0.70), SL 0.34 (0.35–0.40), WL 0.90 (0.94–1.00) mm, CI 0.79 (0.79–1.00), SI 0.57 (0.57–0.63); $n = 5$.

Head in full face view with straight to gently convex posterior border, sides slightly convex and diverging anterad. Gular teeth small and acute. Anterior clypeal border convex; usually with 6 teeth: median pair may be separate or fused to a variable degree, single tooth on each side, and heavy, usually bidentate lateral teeth. Sometimes a single tooth may be present between median teeth and lateral tooth; one specimen with small denticle between median teeth. Inner mandibular margin with large basal triangular tooth, smaller subbasal tooth, series of four basally fused double teeth. A small preapical, usually bicuspid tooth present before long, sharp apical tooth. Dorsal and ventral mandibular surfaces longitudinally rugose. Scape with longitudinal rugulae and low oval depressions.

Cephalic dorsum densely reticulate-punctate and with noticeable longitudinal rugulae on anterior one-fourth to one-third of head, much weaker rugulae, sometimes barely discernible, extend caudad toward vertex. Some oblique striae on gular area. A narrow longitudinal median strip of smoother sculpture present, extending from behind frontal carinae to vertex. Microsculpture on posterior cephalic dorsum coriarius. Head ventrum smooth, with scattered piligerous punctures; occiput smooth and shining with some punctures. Eyes consisting of single ommatidium situated behind cephalic midlength.

Mesosoma laterally with nearly flat dorsal margin, promesonotal suture marked, metanotal suture totally effaced. Propodeal dorsum slightly higher than rest of mesosomal dorsum, broadly curving into gently convex declivitous face. Propodeal dorsum smooth and shining, with scattered punctures, declivitous face glabrous. Mesosoma widest at pronotum, narrowest at mesonotum, which is transverse; propodeum has broadly convex sides that diverge caudad. Pronotal sides smooth and shining with scattered punctures. Metepisternal and lateral propodeal faces glabrous, except for inferoposterior transverse striae with some punctures below propodeal spiracle. Katepisternum with transverse rugulae, anepisternum smooth and shining.

Petiole laterally with straight to slightly concave anterior face, meeting the flat to slightly convex dorsal face at right angle. Petiole dorsally longer than wide, postpetiole transverse. Subpetiolar process elongate, with slightly concave inferior margin. Gaster smooth and shining with scattered piligerous punctures. Femora and tibia, especially middle and hind, laterally compressed. Apex of fore tibia with large pectinate spur, mesotibia with small slender spur and metatibia with large curved pectinate spur and an accompanying smaller, more slender one. Empodia present, claws simple.

Head very dark brown; antennae, mandibles, petiole, and posterior pronotal margins dark ferruginous yellow. Mesosoma mostly black; gaster light to dark yellowish-brown. Legs ferruginous yellow. Lateroposterior corners of propodeum with oblong patch usually testaceous to dark ferruginous yellow. Body with short standing hairs on mesosoma, longer on anterior face of pronotum, posterior margin of propodeal dorsal face and toward apex of gaster. Pubescence mostly sparse and appressed.

QUEEN. HL 0.72, 0.71; ML 0.44, 0.47; HW 0.58, 0.56; SL 0.35, 0.35; ED 0.10, 0.11; WL 1.00, 1.00 mm; CI 0.81, 0.79; MI 0.76, 0.84; SI 0.60, 0.63. Two parandotypes with same collection data as holotype. Deposited in IZAV. Significant differences from the workers are the usual: presence of compound eyes, ocelli, and more mesosomal development, plus wing stumps. Punctures of cephalic dorsum are shallower than in worker, and the longitudinal rugulae are more noticeable. Pilosity more abundant than worker.

MALE. Unknown.

ECOLOGY. The holotype nest consisting of two queens and 17 workers was found beneath a stone in a coffee plantation. Beneath the same stone and apparently with overlapping nest limits was a colony of *Basicerus discigera* (Mayr). Other samples come from leaf litter samples taken mostly in humid and wet forests, between elevations of 70–1000 m. The Peruvian specimen was captured in clay soil at the base of a large tree growing in mature “tierra firme” forest.

DISCUSSION. The dense anterior sculpturing on the cephalic dorsum separates this species from *A. elongata* (Santschi) and *A. monrosi* Brown, which are predominantly smooth and shining. *Amblyopone lurilabes* is apparently sympatric with *A. elongata* in northern Argentina, and *A. monrosi* is an endemic Chilean ant. *Amblyopone armigera* Mayr is larger in size, with proportionally much larger gular teeth, and larger punctures and more prominent rugae on the cephalic dorsum than *A. lurilabes*. An apparently exclusive character that separates *A. lurilabes* from the rest of New World *Amblyopone* is the spot on each posterolateral propodeal face.

Most of the records for this species are concentrated in northern South America, with the exception of a specimen from northern Argentina and the Peruvian record. The large gaps in its distri-

bution is unexpected considering the fact that this species is apparently not uncommon, judging from the number of specimens available for study.

ETYMOLOGY. The name of this species is a conjugation of the Latin adjective for pale yellowish, *luridus*, and the Latin noun for spot, *labes*. The name alludes to the unique propodeal spots.

***Amblyopone degenerata* Borgmeier**

Amblyopone degenerata Borgmeier, 1957:111.

S.P. Cover (pers. comm.) reports capturing this rare species, previously known only from SE Brazil: PERU, Tambopata, Cuzco Amazónico, 15 km NE Puerto Maldonado, 13-IV-89, S. Cover & J. Tobin, leg. Samples CA-129 and CA-119. Both samples were taken from clay soil at the base of a large tree, and each sample yielded two workers. All are deposited in MCZC. These specimens compare well with the *degenerata* type, however all 4 have 6 antennomeres, and not 7 as does the type.

***Amblyopone mystriops* Brown**

Amblyopone mystriops Brown, 1960:185–188, fig. 19 (female).

WORKER. Dimensions: HL 1.18–1.35, ML 1.14–1.29, HW 1.08–1.24, SL 0.72–0.77, ED 0.06–0.08, WL 1.63–1.88 mm, CI 0.92, MI 1.03–1.07, SI 0.62–0.67; $n = 3$. Cephalic dorsum reticulo-punctulate with short smooth and shiny median strip, bordered laterally by longitudinal carinae that extend from between frontal carinae and fusing at cephalic mid-length. Anterior cephalic margins with longitudinal parallel rugulae that diverge from antennal fossae. Frontal carinae separated by smooth and shining median depression, and also by small clypeal lobe. Head without gular teeth, only blunt corners present. Mandibles between dorsal carinae and teeth with oblique rugulae, becoming smooth and shining apicad. About 7 denticles on anterior clypeal margin. Mandibles with 2 separate ranks of teeth, a short apical tooth and a rounded preapical process. Eyes small and situated behind cephalic mid-length. Antennae 12-merous.

Promesonotal suture deep, mesometanotal suture also well defined; mesonotum narrow, transverse rugulose to punctate. Rest of nota tend to be smooth and shining, with sparse punctures.

Mesosoma laterally with anterior pronotal margin convex and broadly convex dorsally; metanotum straight; dorsal propodeal face slightly convex, declivitous face straight to slightly convex. Propodeal spiracle oval and directed lateroposteriorly. In dorsal view lateral pronotal margin and metanotum + propodeum form two broad convexities. Anepisternum with some longitudinal rugulae, but rest of lateral mesosomal sculpture as on dorsum, but with fewer punctures posteriorly. Declivitous propodeal face smooth and shining. Anterior nodal face of petiole straight to slightly concave, dorsal

face broadly convex. Subpetiolar process an anteriorly directed rounded lobe with oval fenestra. Gaster smooth and shining with sparse punctures. Legs mostly smooth and shining, but with numerous punctures. Apex of protibia with pectinate spur, mesotibia with 2 simple spurs and metatibia with pectinate spur and simple spur.

Head, legs, antennae, and ventral mandibular face with abundant decumbent pubescence, thinner on rest of body. Suberect hairs on interior mandibular margin, antennae, and to a lesser degree on legs. Abundant subdecumbent hairs on tarsi. Sparse decumbent pilosity on mesosoma, gaster and longer suberect hairs on pygidium. Mandibles, antennae, legs reddish brown, rest of body black.

QUEEN. As in Brown's original description except that space between the dorsal mandibular carina and teeth is mostly convex.

COMMENTS. The Gorgona locality is a new southern range extension of this species. The island is located approximately 56 km NNW of the town of Guapi on the southwestern Colombian coast and has extensive forest cover.

MATERIAL EXAMINED. COSTA RICA, Reserva Biológica Hitoy-Cerese, 9°40'N 83°02'W, 200 m, 29-VIII-85, J. Longino no. 942-s. Five workers and 1 queen from wet forest litter sample. Deposited in JTLC. COLOMBIA, Isla Gorgona, 1-X-1987, G. Andrade, leg. *Amblyopone mystriops* was previously known only from the types series from Los Amates, Guatemala.

***Amblyopone orizabana* Brown**

Amblyopone orizabana Brown, 1960:198, worker and female (examined).

Amblyopone tropicalis Brown, 1962:73, worker (examined) NEW SYNONYMY.

WORKER. Dimensions: HL 0.58–0.62, ML 0.38–0.42, HW 0.48–0.55, SL 0.31–0.34, WL 0.70–0.79 mm, CI 0.81–0.90, MI 0.76–0.88, SI 0.58–0.65; $n = 8$.

The recent increase of specimens in collections has permitted a new assessment of the status of *A. tropicalis* as a valid species. Brown (1962:76) separated *A. tropicalis* from *A. orizabana* by the following characters: (1) reduced number of clypeal teeth, (2) configuration of the median clypeal tooth, (3) diminished dorsal members of the mandibular double teeth, (4) larger size, (5) broader head, and (6) longer and more slender mandibles. These characters, as well as others taken into account during the present studies, all show an overlapping continuum of variability. In particular, the use of the disposition and number of clypeal teeth as a species difference can be misleading if one is comparing only a few specimens; especially variable is the degree of fusion of the median pair of teeth. The number of mandibular teeth in the examined material is 7 (2 single basal teeth, 4 double teeth, and a reclinate preapical tooth), except for the holotype of *A. orizabana*, which apparently has 6 (as its

mandibles are closed tightly against the clypeus another tooth could be hidden).

MATERIAL EXAMINED. COLOMBIA, Chocó, 10 km SW San José del Palmar, Rio Torito, 610 m, 1-4 June 1978, C. Kugler; COSTA RICA, Puntarenas, Monteverde, 1500 m, 10°18'N 84°48'W, 10-XII-87, J. Longino no. 1972-s; EL SALVADOR, Cerro Verde, 1760 m, 14-V-1971, S. Peck, Ber. 201; MEXICO, Veracruz, Pico Orizabana, 2750 m, 24-VIII-53, E.O. Wilson; MEXICO, Veracruz, Córdoba, Paraje Nuevo, El Nacimiento, 7-VIII-69, S. & J. Peck no. B-176; MEXICO, Oaxaca, 14.5 km NE Oaxaca on Mex. 175, 1890 m, 20-VIII-1973, A. Newton; PANAMA, Barro Colorado Island, 6-I-60, W.L. Brown; PANAMA, Barro Colorado Island, II-14-76, A. Newton.

KEY TO NEW WORLD SPECIES OF AMBLIOPONE—WORKERS AND FEMALES

The following key is modified from Brown (1960: 191-192).

1. Antenna with 12 segments 3
 - Antenna with <12 segments 2
2. Antenna with 11 segments; HW > 0.70, WL > 1.10 mm (Puerto Rico) *falcata* n. sp.
 - Antenna with 6 or 7 segments; HW < 0.70, WL < 1.10 mm (SE Brazil, SE Peru) *degenerata* Borgmeier
3. Lobes of frontal carinae separated by a distinct gap 4
 - Lobes of frontal carinae contiguous or fused 7
4. Mandibles on inner surfaces each with 2 separate rows of small, sharp sparse teeth (C. America-SE Colombia) ... *mystriops* Brown
 - Mandibles on inner surfaces with much larger teeth, those near midlength fused at bases to form heavy double teeth 5
5. Inner borders of mandible angularly produced, so that the blades are triangular in shape without the apices; large double teeth with rounded apices; genal teeth reduced to inconspicuous obtuse angles (N. Carolina, U.S.A.) *trigonognatha* Brown
 - Inner borders of mandibles straight to convex, not angularly produced, the blades linear; large double teeth prominently acute; genal teeth acute and projecting 6
6. Inner borders of mandibles and anterior clypeal margin straight (N California to British Columbia) *oregonensis* (Wheeler)
 - Inner borders of mandibles, and usually also the anterior clypeal margin convex in outline (temperate N. America at least to Arizona) ... *pallipes* (Haldeman)
7. At least the anterior ⅓ of the head (full-face view) predominantly densely sculptured and opaque 8
 - Entire or nearly entire cephalic dorsum smooth and shining, with spaced punctures 12
8. Anterior ⅓-¾ of cephalic dorsum longitudi-

- nally striate with intermixed punctures and/or posterolateral propodeal corners each with testaceous to ferruginous yellow spot; color of body mostly black or brown 9
- Cephalic dorsum densely and uniformly punctate or striolate-punctate (except for shining border of median frontal groove in some cases); longitudinal striae on anterior ⅓-¾ of head absent; yellowish posterolateral propodeal spots always absent; color of body mostly yellow or ferruginous 10
- 9. Longitudinal striae on anterior ½-¾ of cephalic dorsum well developed; sculpture on remainder of cephalic dorsum consisting of distinct punctures only, with spaces between them smooth and shining; propodeum completely black (SE Brazil-N Argentina) *armigera* Mayr
 - Longitudinal striae usually confined to anterior ¼-⅓ of head, sometimes weakly extending further toward vertex, sometimes very feebly developed and difficult to see; sculpture on remainder of cephalic dorsum consisting of moderately dense punctures, the spaces between them, if present, shining; propodeum with a testaceous to ferruginous yellow spot on each of its posterolateral corners (N South America, SE Peru, N Argentina) *lurilabes* n. sp.
- 10. Mesosoma smooth, punctation sparse; propodeum with very few punctures on dorsum, and its lateral striation restricted to the lower third; color yellow (Mexico-Choco, Colombia) *orizabana* Brown
 - Punctures more abundant and distinct on mesosoma; sculpture of propodeal lateral faces covers one-half or more of surfaces 11
- 11. Unique holotype worker 4.5 mm long (according to original description) (Cuba) *bierigi* (Santschi)
 - Worker TL 3.0-4.1 mm; female TL 4.1-4.5 mm (Chile) *chilensis* Mayr
- 12. HW > 0.70 mm; straight anterior clypeal margin with small median tooth, not advanced beyond the larger lateral teeth (Chile) *monrosi* Brown
 - HW < 0.70 mm; convex anterior clypeal margin with median tooth advanced beyond lateral teeth (SE Brazil-N Argentina) *elongata* (Santschi)

ACKNOWLEDGMENTS

My thanks go to F. Fernández, J. Longino, E. Ross, J.A. Torres, and M.A. Tenorio for their assistance. Bill Brown pointed out the *A. tropicalis* and *A. orizabana* problem. R. Snelling made the *A. falcata* nest series available for study and reviewed the manuscript. S. Cover provided thoughtful comments of the manuscript and shared valuable information.

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Received 9 April 1990; accepted 13 December 1990.